



Connect

Un asistente, dos mundos

Ampliando OpenShift Lightspeed con MCP de Satellite y conocimiento BYOK

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Agenda

- ▶ OpenShift LightSpeed basics
- ▶ How it can be customized
- ▶ Satellite MCP basics
- ▶ Integration Openshift Lightspeed with Satellite MCP
- ▶ Demo
- ▶ Q&A



OpenShift LightSpeed basics



OpenShift Lightspeed

Design philosophies



Help where you need it

Integrated directly into the Red Hat OpenShift web console

Troubleshoot, investigate and learn more

Provides assistance with troubleshooting and investigating cluster resources

Generative AI

Powerful, pluggable LLMs combined with the latest OpenShift documentation

Benefits for the entire team

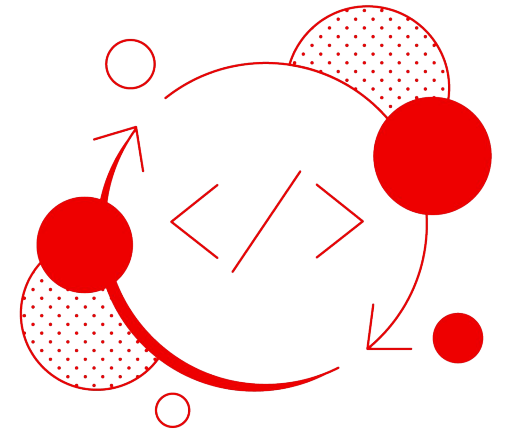
Regardless of skill level

Novices can

- + Reduce their OpenShift learning curve
- + Receive step-by-step guidance
- + Get help with troubleshooting errors
- + Increase skill development
- + Build confidence

Experts can

- + Increase productivity for day-to-day operations
- + Get help with troubleshooting errors



Works with OpenShift 4.16+

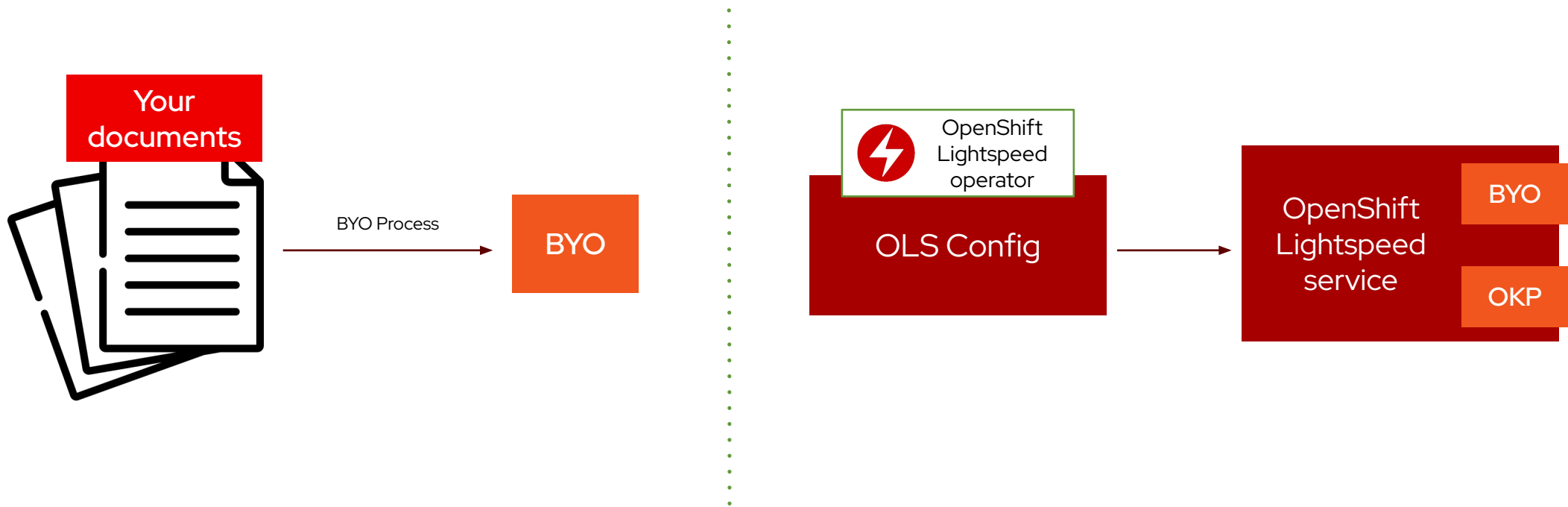
- ✔ Openshift Kubernetes Engine (OKE)
- ✔ Openshift Virtualization Engine (OVE)
- ✔ Openshift Container Platform (OCP)
- ✔ Openshift Container Platform Plus (OPP)

- Model Provider cost not included -

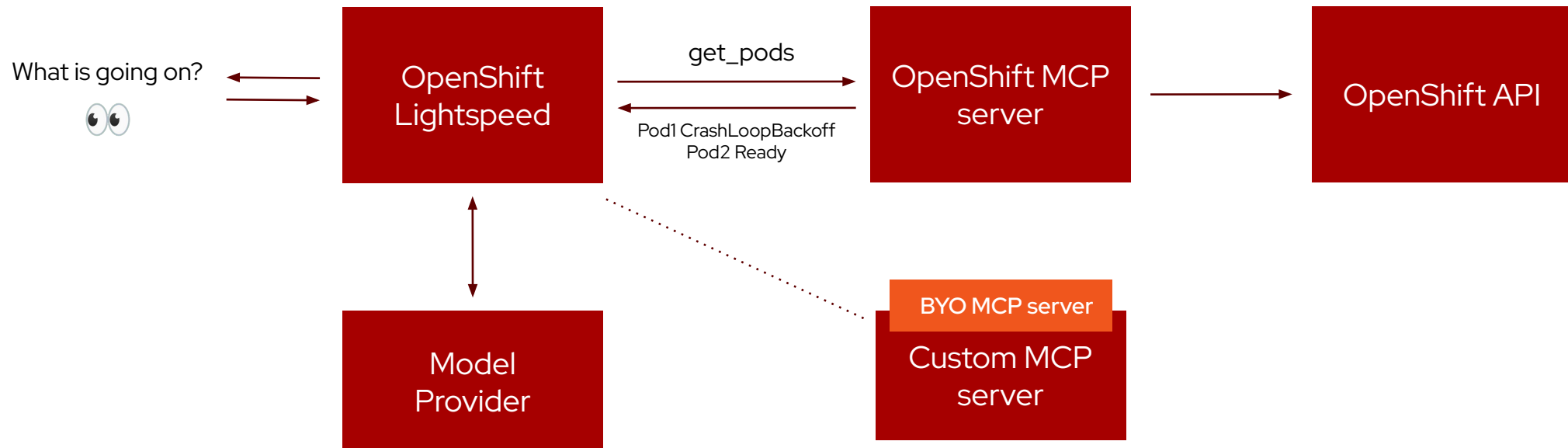
How it can be customized



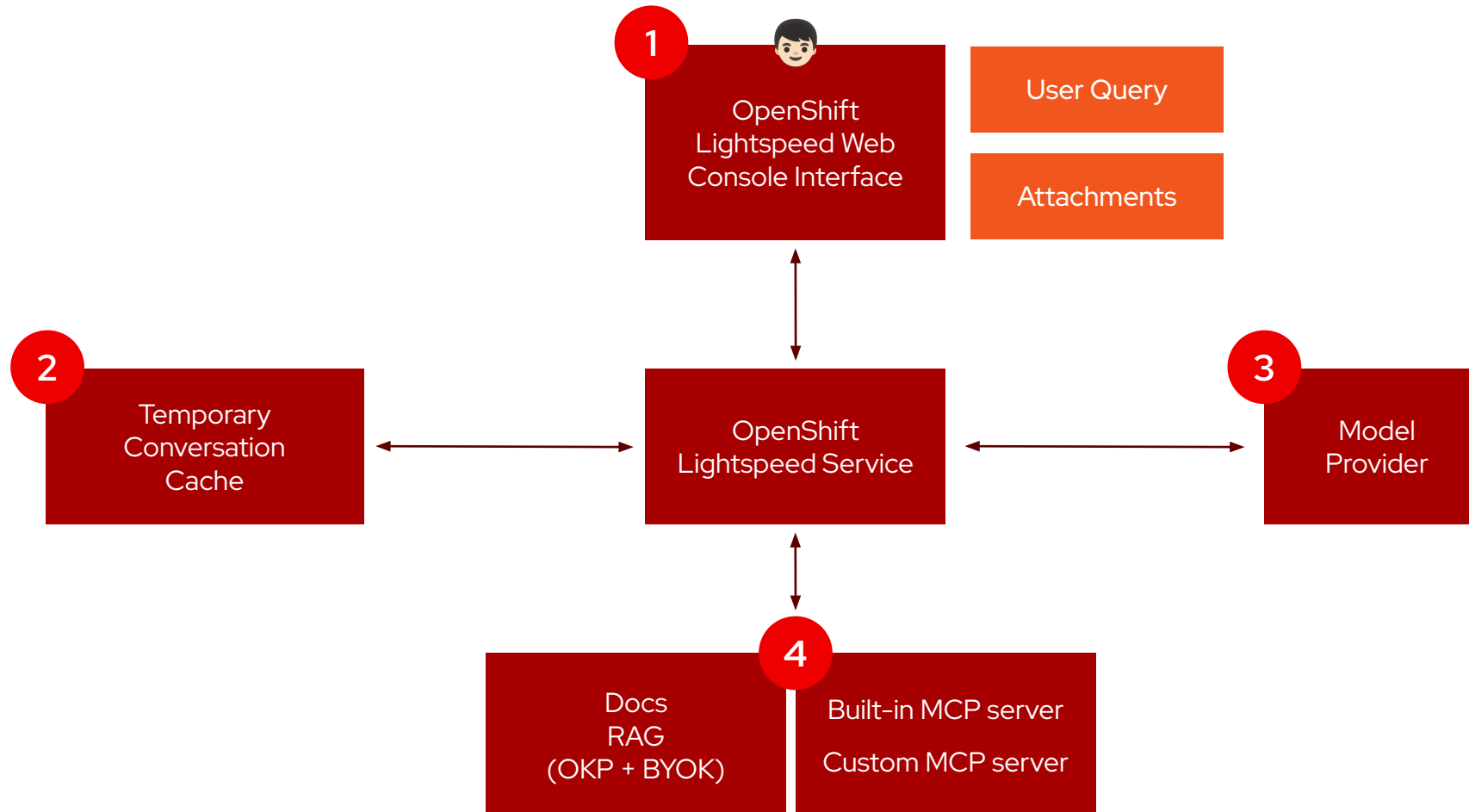
How you do it vs. default documentation



OpenShift Lightspeed Cluster Interaction



OpenShift Lightspeed data flow

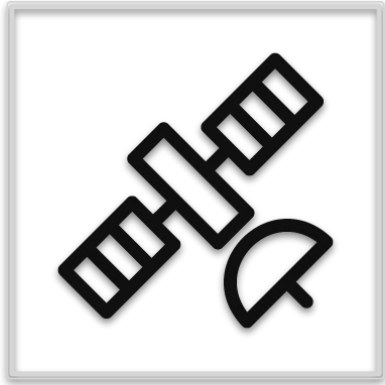


Satellite MCP basics



Satellite MCP

Design philosophies



Based on Foreman MCP upstream project

Initially designed to be embedded in Satellite as a plugin, at last it was provided as an external tool. Container as a bridge between Satellite and AI applications

Investigate, generate reports and obtain a broader and deeper view of your infrastructure

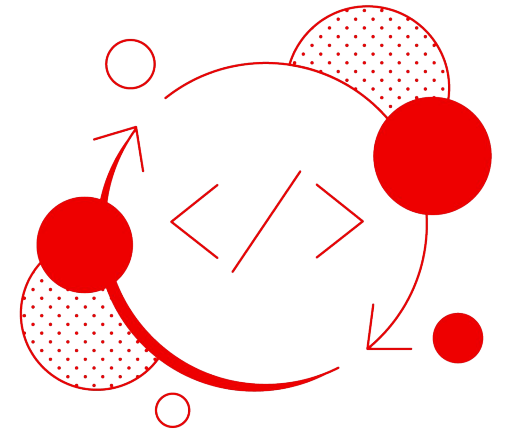
Initial use case focused on reporting, e.g: determine lists of hosts that need to be patched

Multiclient (Cursor, Claude, VSCode, etc.)

Works with multiple clients that need communication with Satellite API via a token. And yes, now with Openshift Lightspeed as a client!

Review of basic concepts about Satellite MCP

- + Available since Red Hat Satellite 6.18 as a Tech Preview. In Satellite 6.19 as a General Availability (GA)
- + Obtain reports faster and easier than ever before (do you remember about Reporting Templates? OMG)
- + Quickly know which systems are vulnerable to specific vulnerabilities. Analyze Satellite Inventory / CVEs / Recommendations using Natural Language (quite relevant in Mythos moment)
- + Know if your systems are well aligned in your environment
- + Gain trust

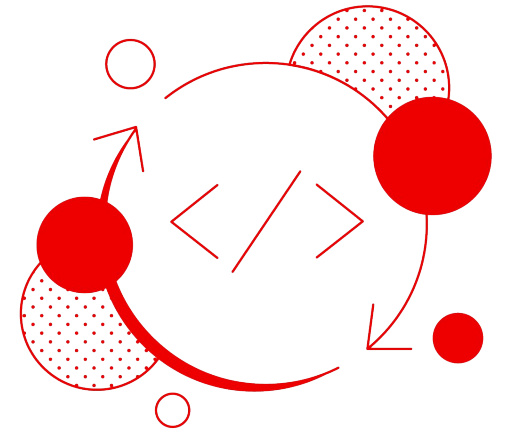


Integration Openshift Lightspeed with Satellite MCP



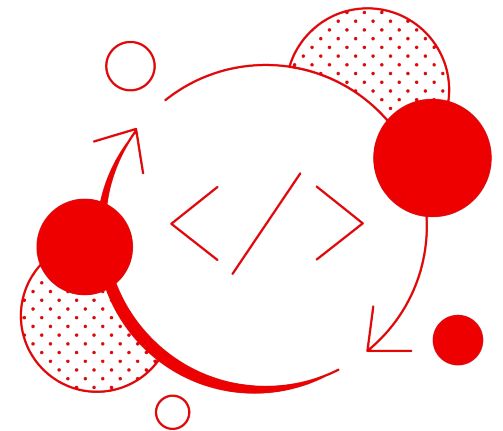
How the integration with Openshift Lightspeed works

- + **OLS becomes much more than an assistant for Openshift**
- + **MCP Server:** A container image deployed in Openshift that communicate with Satellite API via an nginx proxy container. Allows AI assistants to discover tools in Satellite
- + **Cluster IP Service:** Expose the deployment via an internal service
- + All resources created in **openshift-lightspeed** project
- + **Two secrets** should be created, one for the corresponding username and another for the token. Both should have intentionally as a key "header", nor username, neither token
- + Both secrets should be used as the value of the HTTP header in OLSConfig resource. At this point all the authentication is stored in the OCP cluster



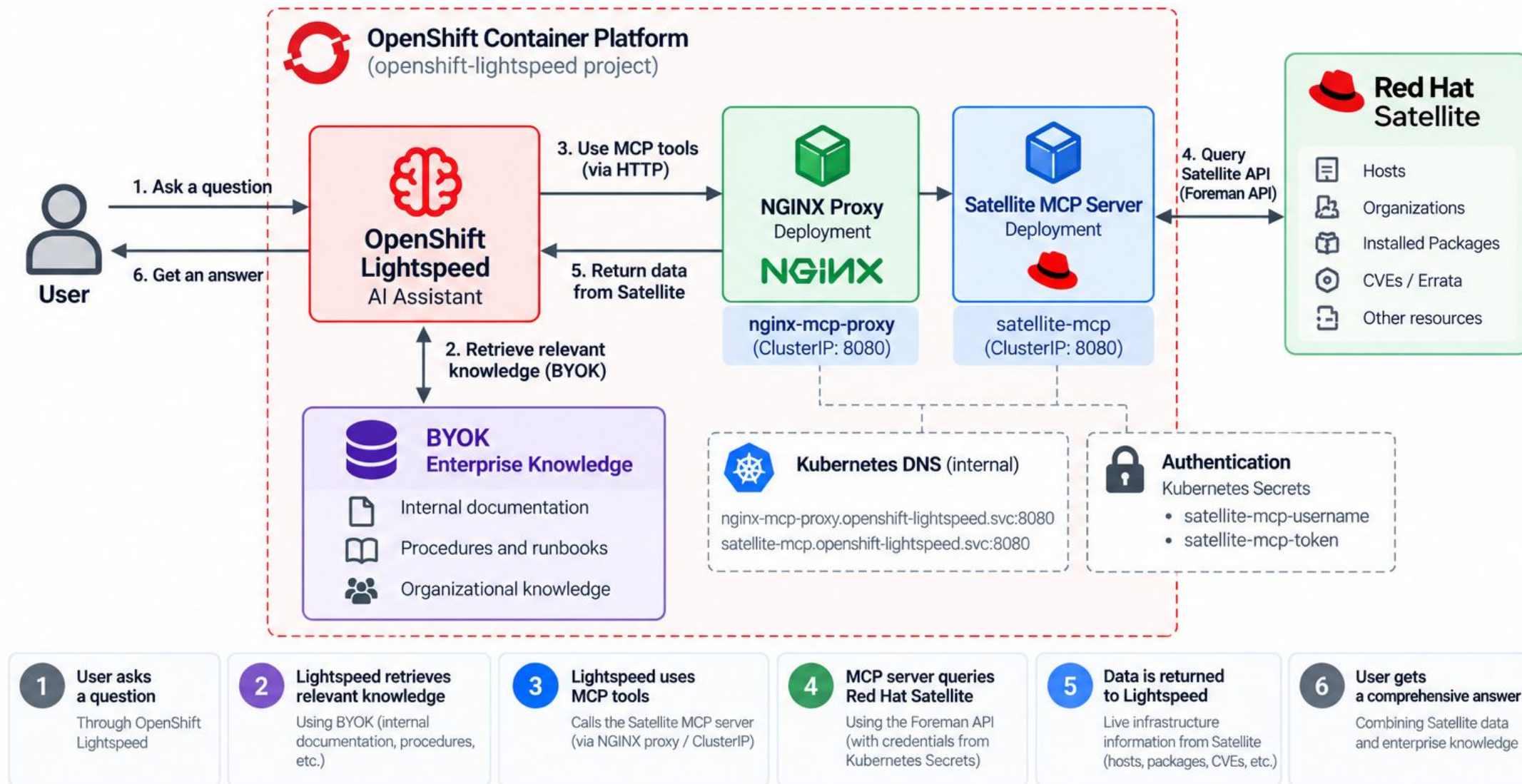
Bridging HTTP Header Naming Incompatibility

- + Red Hat Satellite MCP Server expects authentication credentials to be provided as FOREMAN_USERNAME and FOREMAN_TOKEN.
- + OpenShift Lightspeed only accepts header names that match the `^[A-Za-z0-9-]+$` pattern. Underscores are not permitted.
- + OLS cannot send the expected values by Satellite MCP.
- + Solution: Intercept the call with an nginx proxy. The proxy receives the “hyphenated” headers from OLS and forwards them to the MCP server using the underscore-based names it expects. Expose nginx deployment as a ClusterIP Service, to be used only by OLS.
- + Finally, you only need to add the Satellite MCP server under the mcpServers section in OLSConfig.



OpenShift Lightspeed + Satellite MCP + BYOK

A single AI assistant with live infrastructure data and enterprise knowledge



Demo



Q&A





Connect

Thank you



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